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Title : Mid-water prey in beaked whale and sperm whale deep-water habitat south of Georges Bank

Category : Ecology

Student : Not Applicable

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Abstract : Cetacean deep-water habitat is associated with complex bottom topography and oceanographic features that enhance upwelling and formation of frontal boundaries. These habitats typically delineate zones of increased prey productivity as compared to adjacent regions. This contributes to the heterogeneity in cetacean distribution. A deep-water systematics and cetacean sighting survey conducted in July 2002 (between Bear Seamount, located at approximately 39°55' N, 067°25' W and the southern flank of Georges Bank) provided the first opportunity to examine cetacean fine-scale habitat use in relation to both physical environment and potential prey. Beaked whale (*Mesoplodon* sp.; *Ziphius cavirostris*) and sperm whale (*Physeter catodon*) distributions were analyzed using GIS relative to SST, hydrographic data, and bathymetry. Beaked whales and sperm whales, respectively, were located in waters characterized by: SST 20.7-24.9 & 23.2-24.90 °C ; depth 500-2000 & 325-2300 m; and slope 1.54-6.83 & 1.05-9.18. Respective group sizes ranged between 1-7 and 1-12 animals, including calves. Over 200 species of fishes and 20 species of cephalopods, were caught in survey trawl samples. Principal fish species included: *Serrivomer* sp., *Nemichthys scolopaceus*, *Cyclothone microdon*, *Sigmops elongatum*, *Argyropelecus aculeatus*, *Chauliodus danae*, *Stomias boa ferox*, *Myctophidae*, *Ceratoscopelus* sp., *Hygophum* sp., *Lepidophanes quentheri*, *Notoscopelus resplendens*, *Scopelogadus beani*, and *Ariomma* sp. Deep-water cephalopods are difficult to catch, but several samples of the following species were caught: *Abraliopsis hovei* pfefferi, *Histioteuthis reversa*, *Illex illecebrosus*, *Mastigoteuthis aqassizi*, and *M. magna*. These species have been recorded in stomachs of bycaught or stranded beaked and sperm whales in Atlantic waters.